

SEP 1978

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**vol. 22
1978**

PAARA

Graphs



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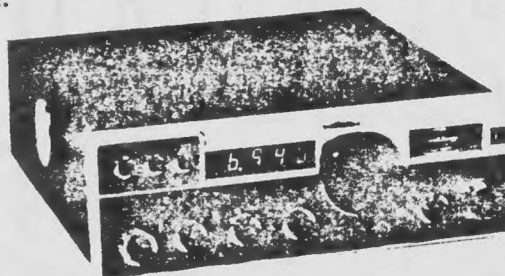
All Solid State-CMOS PL digital synthesized - No Crystals to Buy! 5KHz steps - 144-149 MHz-LED digital readout PLUS MARS-CAP and MULTIPLE OFFSET.*

• 5 MHz Band Coverage - 1000 Channels (instead of the usual 2MHz to 4MHz-400 to 800 Channels) • 4 CHANNEL RAM IC MEMORY WITH SCANNING • MULTIPLE FREQUENCY OFFSETS • ELECTRONIC AUTO TUNING - TRANSMIT AND RECEIVE • INTERNAL MULTIPURPOSE TONE OSCILLATOR • RIT • DISCRIMINATOR METER - 15 Watts Output - Unequaled Receiver Sensitivity and Selectivity - 15 POLE FILTER, MONOLITHIC CRYSTAL FILTER AND AUTOMATIC TUNED RECEIVER FRONT END, COMPARE! • Superb Engineering and Superior Commercial Avionics Grade Quality and Construction Second to None at ANY PRICE.

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Model FMP5-4R . . . 039.95



FM2015R Micro-
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- New! Auto key up
- Snap Action Keyboard
- Adj. level and tone balance
- Use with any transceiver
- Only 3 1/2" x 2"

849M

- **FREQUENCY RANGE** Receive and Transmit 144.00 to 148.995 MHz, 5KHz steps (1000 channels) INCLUDING NEW BAND 144.5-145.5MHz • MARS-CAP and MULTIPLE OFFSET *
- **LED DIGITAL READOUT.**
- **4 CHANNEL RAM SCANNER WITH IC MEMORY.** Program any 4 frequencies and reprogram at any time using the front panel controls—search for occupied (closed) channel or vacant (open) channels. Internal Ni-Cad included to retain memory (no diode matrix to wire or change).
- **MULTIPLE FREQUENCY OFFSETS** Three positions A.B.C. provided for installation of optional crystals. EXAMPLE - 1 MHz offset. Duplex Frequency Offset Built in - 600 KHz PLUS or MINUS 5 KHz steps, plus simplex, any frequency.
- **INTERNAL MULTIPURPOSE TONE OSCILLATOR BUILT IN** 1750Hz tone burst for "whistle on operation" and sub-audible tone operation possible by simply adding a capacitor across the terminals provided. Internal 2 position switch for automatic and manual operation, tone burst or sub-audible tone PL - adjustable 60-203Hz (100 Hz provided).
- **AIRCRAFT TYPE FREQUENCY SELECTOR** Large and small coaxially mounted knobs select 100KHz and 10KHz steps respectively. Switches click-stopped with a home position facilitate frequency changing without need to view LED's while driving and provides the slightest amateur with full Braille dial as standard equipment.
- **FULL AUTOMATIC TUNING OF RECEIVER FRONT END AND TRANSMITTER CIRCUITS** DC output of PLL fed to varactor diodes in all front end RF tuned circuits provides full sensitivity and optimum intermodulation rejection over the entire band. APC (AUTO POWER CONTROL) - Keeps RF output constant from band edge to band edge. NO OTHER AMATEUR UNIT AT ANY PRICE has these

- features which are found in only the most sophisticated and expensive aircraft and commercial transceivers.
- **TRUE FM** Not phase modulation - for superb emphasized hi-fi audio quality second to none.
- **RIT CONTROL** Used to improve clarity when contacting stations with off frequency carrier.
- **MONITOR LAMPS** 2 LED's on front panel indicate (1) incoming signal-channel busy, and (2) Transmit.
- **FULLY REGULATED INTEGRAL POWER SUPPLY** Operating voltage for all 9v circuits independently regulated. Massive Commercial Hash Filter.
- **MODULAR COMMERCIAL GRADE CONSTRUCTION** 6 Utilized modules eliminate stray coupling and facilitate ease of maintenance.
- **ACCESSORY SOCKET** Fully wired for touch tone, phone patch, and other accessories. Internal switch connects receiver output to internal speaker when connector is not in use.
- **MULTI-PURPOSE METER** Triple Function Meter Provides Discriminator Meter, "S" Reading on receive and Power Out on Transmit.
- **RECEIVE** Better than 25uv sensitivity. 15 POLE FILTER as well as monolithic crystal filter and AUTOMATIC TUNED LC circuits provide superior skirt selectivity - COMPARE!
- **HIGH/LOW POWER OUTPUT** 15 watts and 1 watt, switch selected. Low power may be adjusted anywhere between 1 and 15 watts. Fully protected-short or open SWR.
- **OTHER FEATURES** Dynamic Microphone built in speaker, mobile mount, external 5 pin accessory jack, speaker jack, and much, much more. Size 2 1/2 x 7 x 7 1/2. All cords, plugs, fuses, microphone hanger, etc. included. Weight 5 lbs.

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First in the world with an all solid state 2 meter FM transceiver.

SEPTEMBER 1978

VOLUME 22 NUMBER 9

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PAARAgaphs is the official organ of the PALO ALTO
AMATEUR RADIO ASSOCIATION and the MENLO PARK CIVIL
DEFENSE RADIO CLUB.

1978 BOARD OF DIRECTORS			
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PAARA POLICIES

Membership in PAARA is \$4.00 per calander year which includes a subscription to something usually better than this issue. Interested others may subscribe for the non-sustaining fee of \$1.00. Send cash, check or money order to:

PAARA P.O. Box 911 Menlo Park, CA 94025

No change of address -- no more PAARAgaphs. Aand who can't wait to see how this all turns out?

PAARAgaphs Staff:

Editor	W1SE	He wont admit it
Production	F001	He shouldn't h ave tried
Mailing	W6AIN	Ol' Faithful

PAST CORNER -- Marion, K6GJ, reminisced the olden times when home brew meant starting with tin foil from cigarette packs and going on from there. Auxiliary power supplies using a logging locomotive, antennas of 000 copper wire, transmitters using 226-A finals, light dimmers and turn-onners and others of his inventions were discussed and displayed.

40 attended the meeting which dragged a little during the raffle. Speed it up, you guys--don't keep those in suspense waiting to see if they share the loot or not.

& & &

NEAR CORNER

R E G U L A R M E E T I N G

Friday

September 9, 1978

7:30 p.m.

Dr. Michael H. Hecker
SRI International Speech Scientist

Speech Inteligibility and its Measurement

Coffee, cookies, raffle and eyeball QSO's.

Menlo Park Recreation Center, Civic Center, Menlo Park.

BOARD CORNER -- The Board of Directors met Aug. 9, giving praise to the anonymous editor who then resigned. It then planned work assignments for the PAARA Auction and Flea Market Oct. 7 at AMPEX; assigning Bill, WB6LML the chore of getting crystals for Press', W6WU, 2-meter rig donated to the club and now reposing in the trailer. There was some discussion about having a 2-meter QSO Party to see how many club stations we could muster. 18 got into the 8:30 p.m. Monday gabfest on July 18--a new high. Conversations concerning getting Gerry, WA6LNV, on 2-meters so he could keep closer touch with club activities through that medium. All are welcomed to the Sept. 13 meeting at 7:30 p.m. in the club trailer.

NOVICE CORNER -- Swede, KA6BEU, continues to work-over 40-meters with gratifying results and talk of building a simple rig but claiming no know-how. Ed Camp is still trying to sort out dits and dahs to form letters that make meaningful words. No word from Larry Sebring about his progress--he must be having a busy summer. Bill, WA6ZZU is looking for help to put a 40-meter Mosely beam on his 40 foot crankup tower. Bill isn't sure enough of his new legs to try the job alone.

TECHNICIAN CORNER -- One less and we're glad.

GENERAL CORNER -- Bruce, WB6SRC, has given his Dad, Howard, N6HM, cause for worry about who's going to use the big gun and when. Bruce became an Interim General Aug. 14. Congratulations from all of us, Bruce. Do we put a silver star on your name tag?

ADVANCED CORNER -- Have at it, Bruce!

EXTRA CORNER -- Even if you didn't make it (whoever you are) it would be newsworthy. Not all of us go to the City every week.

PUBLIC RELATIONS CORNER -- Guests at the August meeting included John Arnold, Sr., of Sunnyvale, Al Elge, WA6ATB, Los Altos, Bill Frye, Palo Alto. We hope to see you in September. Rick Ferranti, WA6NCX, will have a new address this fall when he takes up housekeeping with his new XYL, Lucy. 215 Herrick Rd., Newton Center, MA 02169. We wish them happiness, health and good fortune.

+ + +

TAG CORNER -- Hopefully name tags will be available for:

Steve	K6FS
Clay	K5OSQ
Jock	N6YV

at the September meeting.

FINE CORNER -- Bob, W6BFH, displayed a good conduct medal but no name tag at the August meeting. He was the only one fined for not being identified. Something like the shoemaker's son.

ANNOUNCING

the

1978

PALO ALTO AMATEUR RADIO ASSOCIATION

ANNUAL AUCTION and FLEA MARKET

Saturday

October 7, 1978

10:00 am to 3:30 pm

AMPEX Cafeteria, Next to Building No. 1, Bay Road, Redwood City, CA

Raffle Prizes.....Coffee and Doughnuts Served.....Ham Equipment & Gear

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To reach AMPEX from BAYSHORE or EL CAMINO: Take WOODSIDE ROAD (State Rt. 84) to BAY ROAD (two blocks east of BAYSHORE) turn south four blocks to AMPEX parking lot. Cafeteria is just south of Building No. 1.

HERE ARE THE RULES

1. Doors open at 9:00 a.m., AUCTION AND FLEA MARKET start at 10:00 a.m., and continue until 3:30 p.m.
2. Register at desk, obtain your AUCTION LOT NUMBERS OR FLEA MARKET TABLE. Then bring your gear into the Cafeteria. There will be monitors and hand trucks to help move your gear or equipment.

PLEASE STAY OFF THE GRASS

3. Buyers must register for bidding during the AUCTION.
4. AUCTION lot numbers will be issued in sequence of registration and will be auctioned in that order.
5. CHARGES: 10% of sale price of auctioned items will be retained by PAARA. If you buy back your own equipment, this fee also applies. Flea Market tables are \$3.50 each.
6. LIMITS: Auction material will be limited to 5 lots per person the first time around. If time permits, additional material may be put up for auction.
7. IDENTIFICATION: In addition to his lot number, owner should include information on the material to be sold.
 - a) Description of article, frequency range, power required, etc.
 - b) Condition of item.
 - a) operating
 - b) not known
 - c) needs repair
8. DONATIONS will be welcomed by PAARA. Such material will be sold to help defray club expenses. ALL SUCH MATERIAL IS GREATLY APPRECIATED.
9. DURING THE AUCTION buyers must show their registration number to record their purchases.
10. PAYING AND RECEIVING: Buyers and sellers will make payment and collect money due at the TREASURER'S DESK. Buyers are urged to settle promptly after each purchase.

INTERNATIONAL CORNER -- In September, 1979, representatives of 154 International Telecommunications Union (ITU) member nations will meet in Geneva to re-evaluate and negotiate allocations of various services to different parts of the RF spectrum on a world-wide basis. These World Administrative Radio Conferences (WARC) take place every 20 years. Agreements as to which service shall occupy what segments of the RF spectrum are decided by vote, each country having one vote. It is expected that Amateur Radio, because of its many allocations in the HF, VHF, UHF and microwave segments, will be the subject of much debate since many other services will be arguing their need for extended spectrum coverage.

Front-row representatives for each country are professional diplomats; backing them are technical and legal advisors from the communications administrations of their governments. Backing these official telecommunications agencies will be representatives of various special interest non-governmental organizations, each officially recognized by its own country's government as spokesman for specific users of the RF spectrum. In the U. S. delegation, ARRL will represent Amateur Radio. League officials at WARC-79 will not be permitted to negotiate with opposite members from other countries but will function as observers and advisors to the U. S. negotiators. This same organization of delegates and observer/advisors applies to all ITU members; heads of member states authorize the final membership of each delegation. President Carter signs the order establishing the membership of the U. S. representation.

Amateur Radio will be represented by selected members of the International Amateur Radio Union (IARU) which has 105 member societies. The IARU team advisors are authorized to attend all meetings of the seven primary ITU committees and 45 sub-committees. IARU reps will get to know delegates (about 2000), their positions and their countries attitude towards Ham radio, and will seek to persuade delegates of the advantages to their countries of protecting, expanding, and, in some cases, creating the Amateur Service as a matter of national policy.

The use of HF bands by the Amateur Service is expected to be the most hotly disputed issue of WARC. At this time the U. S. position set forth by the FCC provides for the exclusive world-wide Amateur use of the following HF bands:

1.7 - 2.0 MHz	10.1 - 10.6MHz	21 - 21.5
3.5 - 4.0 MHz (3 .9 in Europe)	14.0 - 14.5MHz	24 - 24.5
6.8 - 7.3 MHz	18.1 - 18.6MHz	28 - 29.7

plus significant increases of VHF, UHF and microwave assignments.

A plea for good operating practices and self-policing was made to strengthen position of Amateur Radio in the eyes of the ITU; to spread Amateur Radio at home and abroad, the latter by supporting the spread of low-cost equipment such as that developed by ARRL.

The presentation was made by ARRL's Bruce Johnson, attended by about 100 local Amateurs from the Bay Area and reported by Steve, K6FS.

CORRESPONDENCE CORNER -- Hal, W6DEF, reports that Gerry, WA6OPA and his XYL, looking for a place to eat in Auburn, happened along to find Hal sweeping the doorway of 60° High Street. He didn't say whether anyone was fed but did remark about the fine OSO they had. Hal keeps busy but finds time to enter traffic in the N.C. Traffic Net and working into WR6ADI and WR6AKL.

OVERHEARD CORNER -- The KGO listener who suffered a minor breakdown was released after a few weeks of therapy. He complained that, because of his location, he could get KGO only at night. A friend, who happened to be a Ham, suggested he put the old bed spring in the garage up in the oak tree and use it as an antenna. A few days later, while struggling with the bed spring, who should drop by unexpectedly, but his psychologist and family doctor... The story has a satisfactory ending -- he was able to explain ...

QUESTION CORNER -- Bring a pencil and paper to make notes in case a sticky problem is solved in a brief question and answer period at the meeting Friday. If you have a question about why it won't work, someone else probably has the answer and will be glad to share their experience with you.

Unclassified Corner:

Ed, W6KJI, has a NCX-5 in mint condition with a power supply for \$275. Ed says it's an excellent piece of gear but he doesn't need two complete stations.

4 Go-cart wheels from the pallet that used to carry the generator. They must be good for 200 pounds each. See Fred, K6YT with about \$25. Call 94th 0319.

Bronze screen, assorted sizes and shapes. See Ed, W6ATN, at the meeting with a soleful look on your face or call 322 0319.

Erv, W6YPM, 368 2558, has a spare ICOM 230 at \$250.

Philco-Ford Auction/Flea Market, Sept. 9 at Ford Aerospace. No flyer received but it will be near Bayshore and San Antonio Rd. Drive around the block -- you'll find it.

PAARA Auction/Flea Market, Saturday, Oct. 7 at the AMPEX Cafeteria. Don't miss it -- 10:00 a.m. to 3:00 p.m.

Al, WA6ATB, found his 40-meter rig before this rag hit the streets. That's how effective we are.

Everything else: too old or too late or too much.

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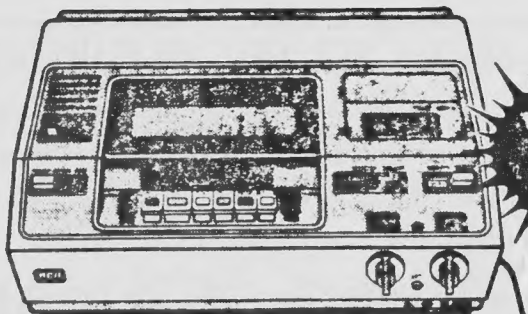
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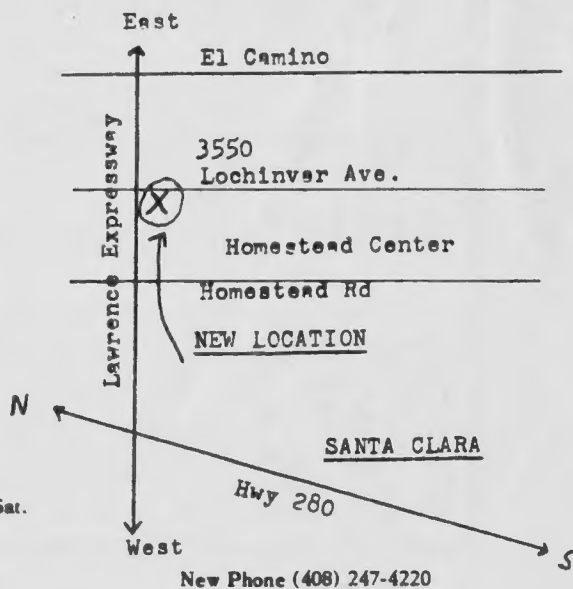
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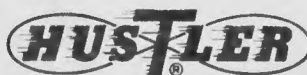
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